REMARKS/ARGUMENTS

Clams 1 to 12, 20 to 29, 43 to 52, 56, 64, 72 to 76, 79, 80, 82 and 83 are pending. No claims are allowed.

The composition claims in parent application Serial No. 09/792,017 are allowed. Enclosed is a copy of the allowed claims (Appendix A).

The present composition claims have been amended to call for composition derived from "zeolite fragments" which disclosure was added in the continuation-in-part application as set forth in Examples 37 and 38, pages 112 to 115 of the specification.

Claims 1, 3-5, 11, 23, 47, 48 and 76 were rejected under 35 USC 102(b) as being anticipated by Liu et al. Liu is a publication of the research which formed the basis for Example 19 of Applicants' first parent application Serial No. 09/578,315, filed May 25, 2000, now U.S. Patent No. 6,585,952 B1 (Appendix B). This is also Example 19 of Serial No. 09/792,017, filed February 21, 2001, Applicants' second parent application and Example 19 of the present application, page 83 of the specification. Thus Liu et al cannot be a reference at all. Reconsideration of this rejection is requested.

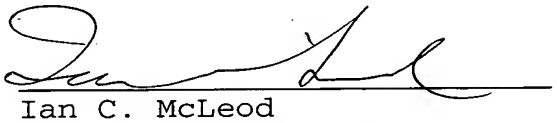
Claims 1, 3, 5, 23 and 48 were rejected under 35 USC 102(b) as anticipated by Shu et al (U.S. Patent No. 5,232,675). Shu et al clearly relates only to

zeolites. The x-ray diffraction in the rejected claims are in the mesopore range not zeolite angstrom range. In any event, there is no suggestion of compositions from zeolite fragments in Shu et al as in the amended claims. Reconsideration is requested.

Claims 2-5, 25, 26, and 43 to 47 were rejected based upon double patenting. Enclosed are Terminal Disclaimers over U.S. Patent No. 6,585,952 B1 and for Serial No. 09/792,017. This overcomes the double patenting rejection.

It is now believed that Claims 1 to 12, 20 to 29, 43 to 52, 56, 64, 72 to 76, 79, 80, 82 and 83 are in condition for allowance. Notice of Allowance is requested.

Respectfully,



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Encl. Appendix A - Allowed claims for S.N. 09/792,017;
Appendix B - U.S. Patent No. 6,585,952 B1; and
Two (2) Terminal Disclaimers over U.S. Patent No. 6,585,952B1 and U.S. Serial No. 09/792,017.

APPENDIX A

-1-

A porous structured aluminosilicate composition which comprises:

a framework of linked tetrahedral SiO_4 and AlO_4 units, the framework defining pores and having an Si to Al molar ratio of between about 1000 to 1 and 1 to 1, and having at least one X-ray diffraction peak corresponding to a basal spacing between about 2 and 100 nm, and wherein the composition retains at least 50% of an initial framework pore volume after exposure to 20 volume % steam at 800°C for two hours.

-2-

A porous structured aluminosilicate composition which comprises:

a framework of linked SiO_4 and AlO_4 units, the framework defining pores and having a Si to Al molar ratio of about 1000 to 1 and 1 to 1, and having at least one X-ray diffraction peak between 2 and 100 nm, and wherein the composition retains at least 75% of an initial framework pore volume after exposure to 20 volume percent steam at 600°C for four hours.

-3-

The composition of Claims 1 or 2 assembled from preformed zeolite seeds.

-4-

The composition of Claims 1 or 2 having a BET surface area of between about 200 and 1400 m^2 per gram, an average pore size between about 1 and 100 nm and a pore volume of between about 0.1 and 3.5 cm^3 per gram.

-5-

The composition of Claim 3 wherein the zeolite seeds are formed using a structure director selected from the group consisting of organic onium ions, alkali metal ions and mixtures thereof.

A porous structured aluminosilicate composition which comprises:

a framework of linked tetrahedral SiO_4 and AlO_4 units, the framework defining pores having an organic surfactant in the pores and having a Si to Al molar ratio of between 1000 to 1 and 1 to 1 and having at least one X-ray defraction peak corresponding to a basal spacing between about 2 and 100 nm, wherein the composition retains at least 50% of an initial framework pore volume after exposure to 20 volume percent steam at 800°C for 2 hours, and wherein the composition is derived from an organic surfactant, an optional co-surfactant, and preformed zeolite seeds.

-7-

The composition of Claim 6 wherein the organic surfactant is selected from the group consisting of an organic onium ion surfactant and a non-ionic surfactant.

-8-

The composition of Claim 7 wherein the surfactant is a non-ionic surfactant selected from the group consisting of a non-ionic polyethylene oxide surfactant and a non-ionic amine surfactant.

-9-

The composition of Claim 6 wherein the zeolite seeds are formed using a structure director selected from the group consisting of organic onium ions, alkali metal ions and mixtures thereof.

-11-

The composition of Claims 1 and 2 with aninfrared absorption band between 500 and 600cm^{-1}.

-12-

The composition of Claim 6 wherein the organic surfactant contains a co-surfactant selected from the group consisting of alkyl alcohol, alkyl amine, aromatic hydrocarbon and mixtures thereof containing between about 2 and 36 carbon atoms in the alkyl and 6 to 36 carbon atoms in the aromatic hydrocarbon.

A structured aluminosilicate composition which comprises:

a framework of linked tetrahedral SiO_4 and AlO_4 units, the framework defining mesopores having an surfactant and optionally a co-surfactant in the mesopores, having an Si to Al molar ratio of between about 1000 to 1 and 1 to 1, and having at least one X-ray diffraction peak corresponding to a basal spacing between about 2.0 and 100 nm, and which when calcined retains at least 50% of an initial framework pore volume after exposure to 20 volume % steam at 800°C for two hours.

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The composition of Claim 20 wherein the surfactant is selected from the group consisting of:

(a) an ammonium or phosphonium ion of the formula $R_1R_2R_3R_4Q^+$, wherein Q is nitrogen or phosphorous, and wherein at least one of the R moieties is selected from the group consisting of aryl, alkyl of between about 6 to 36 carbon atoms and combinations thereof, remaining of the R moieties are selected from the group consisting of hydrogen, alkyl of from 1 to 5 carbon atoms and combinations thereof, and

(b) a non-ionic block surfactant containing polyethylene oxide units in a hydrophilic block and polypropylene oxide, polybutylene oxide, alkyl, or aryl units in a hydrophobic block, and nonionic amine surfactants containing 6 to 36 carbon atoms.

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The composition of Claim 20 wherein there is the co-surfactant which is selected from the group alkyl amine, alkyl alcohol, aromatic hydrocarbon and mixtures thereof, wherein the number of carbon atoms in the co-surfactant is between 2 and 36.

-23-

The composition of any one of Claims 1, 2, 6 or 20 wherein the framework has a structure which is hexagonal, cubic, lamellar, wormhole or cellular foam.

-24-

The composition of Claims 6 or 20 wherein the onium ion surfactant and optional co-surfactant is removed by calcination, by ion exchange, or by a combination of ion exchange and calcination.

-25-

A porous aluminosilicate composition which comprises: a framework of tetrahedral linked SiO_4 and AlO_4 units, the framework defining mesopores having an Si to Al molar ratio of between about 1000 to 1 and 1 to 1, and having at least one X-ray diffraction peak corresponding to a basal spacing between about 2.0 and 100 nm, wherein a BET surface area is between 200 and 1400 m^2 per gram, wherein an average pore size of the framework is between about 1.0 and 100 nm, and wherein a pore volume of the framework is between about 0.1 and 3.5 cm^3 per gram, and which retains at least 50% of an initial framework pore volume after exposure to 20 volume % steam at 800°C for two hours.

-26-

The composition of Claim 25 wherein the framework has a structure which is hexagonal, cubic, lamellar, wormhole, or cellular foam.

A composition prepared by treating the composition of Claim 20 with an ammonium salt solution at a temperature between about 0° and 200°C for a period of up to 24 hours and repeating the treatment up to ten times to introduce ammonium ions into the composition, collecting and drying the resulting composition, and then calcining the resulting composition at a temperature between about 400 and 900°C to remove the surfactant and to convert a fraction of the surfactant to carbon embedded in the mesopores.

A porous structured silicate composition which comprises:

a framework of linked tetrahedral SiO_4 and units selected from the group consisting of AlO_4 units, GaO_4 units, TiO_4 units and mixed units, the framework defining pores and having an Si to combined Ga, Ti and Al molar ratio of between about 1000 to 1 and 1 to 1, and having at least one X-ray diffraction peak corresponding to a basal spacing between about 1 and 100 nm, and wherein the composition retains at least 50% of the initial framework pore volume after exposure to 20 volume percent steam at 600°C for four hours.

-44-

The composition of Claim 43 assembled from preformed nanoclustered seed precursors.

-45-

The composition of Claims 43 or 44 having an X-ray diffraction peak corresponding to a basal spacing between about 2 and 100 nm, a BET surface area of between about 200 and 1400 m^2 per gram, an average pore size between about 1 and 100 nm and a pore volume of between about 0.1 and 3.5 cm^3 per gram.

-46-

The composition of Claim 44 wherein the seed precursors are formed using a structure director selected from the group consisting of organic onium ions, alkali metal ions and mixtures thereof.

-47-

The composition of Claims 1 and 2 with a ^{27}Al NMR chemical shift between about 57 and 65 ppm relative to an external reference of 1.0 M aluminum nitrate.